

Title (en)  
DEVICE FOR SAMPLING OF SUBSTANCES USING ALTERNATING POLARITY

Title (de)  
VORRICHTUNG ZUR PROBENENTNAHME MITTELS POLARITÄTSSUMKEHRUNG

Title (fr)  
DISPOSITIF POUR ECHANTILLONNER DES SUBSTANCES A L'AIDE D'UNE POLARITE ALTERNEE

Publication  
**EP 0766577 B1 20031210 (EN)**

Application  
**EP 95924591 A 19950623**

Priority  
• US 9507579 W 19950623  
• US 26584494 A 19940624

Abstract (en)  
[origin: US5771890A] A method for sampling of a substance from a subject is provided, which comprises placing one or more sampling chambers on a collection site on a tissue surface on the subject; conducting electric current through the tissue to extract a substance from the subject in a first direction in one or more sampling chambers that functions alternatively as both an anode and cathode during the course of the method; reversing the polarity to cause direct current to flow in second direction opposite the first direction; and analyzing the sampling chamber or chambers for the concentration of a substance or a substance metabolite. There is also provided a device for sampling of a substance from an organism on continuously or intermittently using alternating polarity method based on the application of low intensity electric fields of alternating polarity across the skin (iontophoresis) to enhance the transport of a substance (such as glucose, lactic acid, pyruvic acid, and the like) from body tissues to a sampling chamber. The device comprises an electrical power supply; a transdermal system that contains one or more sampling chambers that function as both anode and cathode during the course of sampling; a means to alternates or reverses the polarity during the iontophoretic sampling; and means for analyzing for the concentration of a substance or a substance metabolite.

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**A61N 1/30**

IPC 8 full level  
**A61B 5/00** (2006.01); **A61B 5/145** (2006.01); **A61B 5/1495** (2006.01); **A61N 1/30** (2006.01)

CPC (source: EP US)  
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**WO 9600109 A1 19960104**; AT E255936 T1 20031215; AU 2902695 A 19960119; CA 2193884 A1 19960104; CA 2193884 C 20020820; DE 69532282 D1 20040122; DE 69532282 T2 20041209; DK 0766577 T3 20040322; EP 0766577 A1 19970409; EP 0766577 B1 20031210; ES 2211909 T3 20040716; JP 3350053 B2 20021125; JP H10505761 A 19980609; PT 766577 E 20040331; US 2001020124 A1 20010906; US 2002002328 A1 20020103; US 5771890 A 19980630; US 6023629 A 20000208; US 6298254 B2 20011002; US 6687522 B2 20040203

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